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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SASINOWSKI, ANDREW

ART UNIT

PAPER NUMBER

4163

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/569,749	Applicant(s) TANAKA ET AL.	
	Examiner ANDREW J. SASINOWSKI	Art Unit 4163	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 February 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/24/2006, 2/12/2007, 11/1/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 – 2 and 5 – 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi et. al. [US PG PUB 2004/0027958] in view of Murakami [US PG PUB 2003/0058751].

Regarding claim 1, Takeuchi teaches:

- A heat treatment determining method comprising the steps of:
- executing a heat treatment of a magnetic layer by irradiating a laser beam of a first power to an area between tracks **[\$0179]**
- irradiating a laser beam of a second power smaller than said first power to said heat-treated area **[claim 27]**;
- detecting a level of a magnetooptic signal from reflection light of the laser beam of said second power **[claim 26]**;
- and determining whether said heat treatment is proper or improper on the basis of said detected magnetooptic signal **[claim 26, note that the “determining step” functions by determining whether or not the detected magnetooptic part is proper or improper]**.

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However, Takeuchi does not teach:

- a magneto-optical structure,
- laminating the magnetic layer onto a substrate on which the tracks have previously been formed in which said magnetic layer is constructed by a recording layer to hold recording magnetic domains according to recording information, a displacement layer made of a perpendicular magnetic film whose domain wall coercive force is smaller and whose domain wall displacement speed is higher than those of said recording layer, and a switching layer which is arranged between said recording layer and said displacement layer and whose Curie temperature is lower than those of said recording layer and said displacement layer;

Murakami does teach:

- a magneto-optical structure **[fig. 9, note that even though the structure is given as prior art, Murakami teaches improvements to this same basic design and Domain Wall Displacement Detection method]**
- laminating the magnetic layer onto a substrate on which the tracks have previously been formed in which said magnetic layer is constructed by a recording layer to hold recording magnetic domains according to recording information **[abstract]**,
- a displacement layer **[fig. 9, item 91]** made of a perpendicular magnetic film whose domain wall coercive force is smaller **[\$0014]** and whose

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domain wall displacement speed is higher than those of said recording layer **[0014]**,

- a switching layer which is arranged between said recording layer and said displacement layer **[fig. 9, item 92]** and whose Curie temperature is lower than those of said recording layer and said displacement layer **[\$0017]**;

It would have been obvious to combine the magnetooptic structure taught by Murakami with the method taught by Takeuchi because it would result in a predictable result, namely that the method would be applied to a magnetooptical disc that functions as a DWDD medium.

Regarding claim 2, Takeuchi in view of Murakami teach the method as taught in claim 1 **[see above]**. Additionally, Takeuchi teaches:

- A heat treatment determining method wherein a predetermined signal is recorded onto said magnetooptic information recording medium before execution of said heat treatment **[claim 26]**.

The apparatus described in claim 5 is inherent to the method as described in claim 1.

Therefore claim 5 is rejected upon the same grounds as claim 1.

The apparatus described in claim 6 is inherent to the method as described in claim 2.

Therefore claim 6 is rejected upon the same grounds as claim 2.

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3. Claims 3 - 4 and 7 - 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi in view of Murakami, and in further view of Yamaguchi et. al. [US PG PUB 2001/0015937].

Regarding claim 3, Takeuchi in view of Murakami teach the method as taught in claim 1 **[see above]**.

However, Takeuchi in view of Murakami do not teach:

- wherein said magnetooptic information recording medium is magnetized in one direction upon execution, before execution, or after execution of said heat treatment.

Yamaguchi does teach:

- wherein said magnetooptic information recording medium is magnetized in one direction before execution of said heat treatment **[0014]**.

It would have been obvious to one with ordinary skill in the art to combine the magnetization taught by Yamaguchi with the method taught by Takeuchi in view of Murakami because the magnetization could be used to format the medium for domain expansion.

Regarding claim 4, Takeuchi in view of Murakami teach the method as described in claim 1 **[see above]**.

However, Takeuchi in view of Murakami do not teach:

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- wherein an area of a spot of the laser beam of said second power on said magnetooptic information recording medium is larger than that of a spot of the laser beam of said first power.

Yamaguchi teaches:

- wherein an area of a spot of the laser beam of said second power on said magnetooptic information recording medium is larger than that of a spot of the laser beam of said first power **[claim 4]**

It would have been obvious to one with ordinary skill in the art to combine the spot sizes taught by Yamaguchi with the method taught by Takeuchi in view of Murakami because the two different spot diameters could be used for reproducing different magnetooptic medium formats.

The apparatus described in claim 7 is inherent to the method as described in claim 3.

Therefore claim 7 is rejected upon the same grounds as claim 3.

The apparatus described in claim 8 is inherent to the method as described in claim 4.

Therefore claim 8 is rejected upon the same grounds as claim 4.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW J. SASINOWSKI whose telephone number is

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(571)270-5883. The examiner can normally be reached on Monday to Friday, 7:30 to 5:00, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Robinson can be reached on (571)272-2319. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AJS

/Mark A. Robinson/

Supervisory Patent Examiner, Art Unit 4163